

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B01J20/04 B01J20/34 B01D53/62

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01J B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 03/080223 A (CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS) 2 October 2003 (2003-10-02) the whole document	1-5,7
A	US 4 226 839 A (E.P. O'NEILL) 7 October 1980 (1980-10-07) column 3, line 24 - line 35 column 3, line 51 - column 5, line 40	1-5
A	GB 2 291 051 A (AGENCY IND SCIENCE TECHN) 17 January 1996 (1996-01-17) page 4, line 33 - page 7, line 2	1-7
A	US 6 309 996 B1 (L-S. FAN) 30 October 2001 (2001-10-30) claim 1	1-5
	----- -/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

9 August 2004

Date of mailing of the international search report

30/08/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Hilgenga, K

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/CA 03/01759

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/037246 A1 (C. BEAL) 28 March 2002 (2002-03-28) page 2, paragraph 18 - paragraph 23	8-18
A	US 2003/007918 A1 (FAN LIANG-SHIH ET AL) 9 January 2003 (2003-01-09) page 2, paragraph 24 - page 3, paragraph 27	8-18
A	US 4 900 533 A (MALDEN PETER J) 13 February 1990 (1990-02-13) cited in the application	8-18
A	US 4 312 280 A (TURNER CLARENCE B ET AL) 26 January 1982 (1982-01-26) cited in the application column 4, line 5 - line 17	8-18
A	US 5 792 440 A (HUEGE FRED R) 11 August 1998 (1998-08-11) cited in the application	8-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 03/01759

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 03080223	A	02-10-2003	ES	2192994 A1	16-10-2003
			WO	03080223 A1	02-10-2003
US 4226839	A	07-10-1980	NONE		
GB 2291051	A	17-01-1996	JP	2710267 B2	10-02-1998
			JP	8024571 A	30-01-1996
			US	5665319 A	09-09-1997
US 6309996	B1	30-10-2001	CA	2331984 A1	11-11-1999
			EP	1089814 A1	11-04-2001
			WO	9956868 A1	11-11-1999
US 2002037246	A1	28-03-2002	FR	2814533 A1	29-03-2002
			EP	1193444 A1	03-04-2002
			PL	349870 A1	08-04-2002
US 2003007918	A1	09-01-2003	US	6328954 B1	11-12-2001
US 4900533	A	13-02-1990	NONE		
US 4312280	A	26-01-1982	NONE		
US 5792440	A	11-08-1998	AT	215514 T	15-04-2002
			CA	2232302 A1	27-03-1997
			DE	69620423 D1	08-05-2002
			DE	69620423 T2	07-11-2002
			DK	851839 T3	29-07-2002
			EP	0851839 A1	08-07-1998
			ES	2175072 T3	16-11-2002
			PT	851839 T	30-09-2002
			WO	9711030 A1	27-03-1997